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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,181	11/13/2001	Dong Lee II	0630-1353P	6519

2292 7590 05/21/2003

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EXAMINER

JONES, JUDSON

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,181

Applicant(s)

LEE ET AL.

Examiner

Judson H. Jones

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it is not a single paragraph.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 6 and 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Burke, Jr. 4,364,000 A. Burke, Jr. discloses a reciprocating reluctance motor comprising a rotor 14 with a pair of teeth, a rotational shaft 37, a stator with first and second windings and rotation control means 22 as described in column 4 line 61 to column 5 line 10 with the windings centered on an angle centering around the rotational shaft.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke, Jr. 4,364,000 A in view of Brooks et al. 5,061,107 A and Brum et al. 6,441,517 A. Burke, Jr. discloses a reciprocating reluctance motor comprising a rotor 14 with a pair of teeth, a rotational

shaft 37, a stator with first and second windings and rotation control means 22 as described in column 4 line 61 to column 5 line 10 with the windings centered on an angle centering around the rotational shaft but does not disclose a rotary bar attached to one end of the rotational shaft. Instead Burke, Jr. uses a "Flex-Free" flexural pivot as described in column 4 lines 57-60. Brooks 5,061,107 A teaches that "Flex-Free" pivots lack accuracy for precision systems and teaches that reliability, stress and non-linearity are problems for pivots in column 1 lines 54-58. Brum et al. teaches a much simpler and cheaper system for limiting the axial rotation of a shaft as shown in figure 1. Since Brum et al., Brooks et al. and Burke, Jr. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized external rotary bars to limit rotation of the shaft instead of the "Flex-Free" flexural pivot suggested by Burke, Jr. in column 4 lines 57-60 in order to reduce the cost of a reciprocating reluctance motor device.

In regard to claims 3-5, see springs 15 in Brum et al. figure 1.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burke, Jr. in view of Applicant's conventional art figure 2. Burke, Jr. discloses the oscillating motor but does not disclose using the motor in a gas compressor. Applicant's figure 2 teaches that oscillating motors are usable for compressing gas. Since Burke, Jr. and Applicant's figure 2 are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized an oscillating motor in a gas compressor in order to provide an additional use for the motor.

Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke, Jr. as modified by Applicant's figure 2 in view of Brooks et al. and Brum et al. Burke, Jr. as modified

by Applicant's figure 2 discloses a gas compressor with a reciprocating reluctance motor, the motor comprising a rotor 14 with a pair of teeth, a rotational shaft 37, a stator with first and second windings and rotation control means 22 as described in column 4 line 61 to column 5 line 10 with the windings centered on an angle centering around the rotational shaft but does not disclose a rotary bar attached to one end of the rotational shaft. Instead Burke, Jr. uses a "Flex-Free" flexural pivot as described in column 4 lines 57-60. Brooks 5,061,107 A teaches that "Flex-Free" pivots lack accuracy for precision systems and teaches that reliability, stress and non-linearity are problems for pivots in column 1 lines 54-58. Brum et al. teaches a much simpler and cheaper system for limiting the axial rotation of a shaft as shown in figure 1. Since Brum et al., Brooks et al. and Burke, Jr. as modified by Applicant's figure 2 are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized external rotary bars to limit rotation of the shaft instead of the "Flex-Free" flexural pivot suggested by Burke, Jr. in column 4 lines 57-60 in order to reduce the cost of a reciprocating reluctance motor device.

In regard to claims 10-14, see springs 15 in Brum et al. figure 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

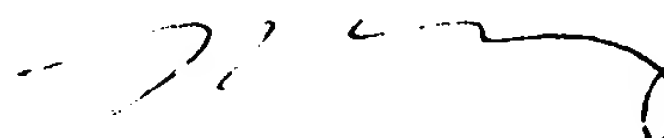
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Application/Control Number: 09/987,181
Art Unit: 2834

Page 5

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ
May 16, 2003

A handwritten signature in black ink, appearing to be "JHJ", located to the right of the typed name and date.